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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,081	01/10/2007	Ramon Rodriguez Cuartas	293703US0PCT	5870

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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BEL'YAEV', YANA

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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02/03/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/589,081	<b>Applicant(s)</b> RODRIGUEZ CUARTAS ET AL.	
	<b>Examiner</b> YANA BELYAEV	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 19 is/are pending in the application.
- 4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/22/09</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1, 3, 6-8, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over French Patent 0302373 (US Patent Application 2004/0224833 used as a translation) (Jeanvoine hereinafter) and further in view of US Patent 3,332,763 (Basler hereinafter).

**Regarding claims 1 and 3 and 7-8**, Jeanvoine discloses a process for manufacturing flat glass rich in lead oxide, comprising the continuous floating (paragraph 12), of a glass comprising a very substantial quantity of lead oxide by weight, such as 30% of lead oxide by weight (paragraph 101) on a bath of molten metal (paragraph 14).

However, it would be reasonable for one of ordinary skill in the art at the time of the invention to interpret comprising a very substantial quantity of lead oxide by weight to include

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quantities of 50% or greater by weight – the example of 30% in Jeanvione is merely one embodiment and is not limiting to the term very substantial quantity.

Jeanvoine does not specifically disclose that the float plant has a neutral gaseous atmosphere or that the molten metal has a higher density than that of the glass.

However, since one of the limitations of the claim is that the glass floats on the bath of molten metal (claim 1, line 2) then the bath of molten metal inherently has the property of having a higher density than that of the glass, or floating would not be possible.

Basler teaches a float glass process that is employed to form a conventional commercial glass. Specifically, Basler teaches that the glass is continuously floated (column 3, lines 8-10) in a float plant with a neutral gaseous atmosphere, which is comprised principally of nitrogen (column 1, lines 49-52). It would have been obvious to make a neutral gaseous atmosphere, comprising primarily nitrogen, in the float plant which is disclosed by Jeanvoine in order to protect the molten metal from oxidation (column 1, line 61) as suggested by Basler.

**Regarding claim 6,** Jeanvoine discloses that the molten metal treatment station is included with said bath (paragraph 115).

**Regarding claims 11-14,** Jeanvoine discloses that before the float plant, the glass is melted in a furnace that includes at least one submerged burner (paragraph 115), wherein the furnace comprises at least two tanks in series (paragraph 115). That the first tank is equipped with at least one submerged burner and is fed with the batch materials other than lead oxide and the second tank is fed with lead oxide (paragraph 101). Jeanvoine discloses an example where the second tank (paragraph 55) is at a lower temperature than the first tank (paragraph 49).

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2. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeanvoine in view of Basler as applied to claims 1, 3, 6-8, and 11-14 above, and further in view of US Patent 3,881,905 (Cramer hereinafter).

**Regarding claim 2**, Jeanvoine in view of Basler does not disclose that the neutral gaseous atmosphere comprises less than 5 ppmv oxygen.

Cramer discloses a float bath process in Example II that oxygen comprises approximately 0.01 percent by volume of the total atmosphere (column 7, lines 56-61), which is less than 5 ppmv oxygen.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have neutral gaseous float bath atmosphere comprising less than 5 ppmv oxygen. The rationale to do so would have been the motivation provided by Cramer that to do so would predictably ensure that no defects due to oxidation form on the glass (column 7, lines 54-56).

**Regarding claim 19**, Jeanvoine in view of Basler does not disclose that the neutral gaseous atmosphere does not contain hydrogen.

Cramer discloses that the atmosphere does not contain hydrogen (column 4, lines 36-40).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have completely removed hydrogen from the atmosphere to prevent the atmosphere from becoming a reducing atmosphere (column 3, lines 40-44 and column 4, lines 36-40), since a reducing atmosphere results in the glass having a lazy appearance (column 2, lines 35-39).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeanvoine in view of Basler as applied to claims 1, 3, 6-8, and 11-14 above, and further in view of US Patent

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Application 2005/0028559 (Hiromatsu hereinafter) and US Patent 5,120,579 (Gardner hereinafter).

**Regarding claim 4** Jeanvoine in view of Basler does not disclose that the temperature of the bath of molten metal is lower than the temperature of a bath of molten metal in a float plant for a soda-lime-silica glass containing no lead.

Hiromatsu, however, discloses that the molten metal in a float plant for a soda-lime-silica glass containing no lead is between 600 and 1050 degrees Celsius and is directly correlated to the glass transition point of soda lime silica glass, which is 550 degrees Celsius (paragraph 5).

Gardner discloses that the glass transition point of glass comprised substantially of lead oxide is about 300-400 degree Celsius (column 1, lines 46-49).

Thus, it would have been obvious for one of ordinary skill in the art at the time of the invention to have the temperature of the bath of molten metal be lower in a float plant for a glass containing lead oxide than for a soda lime silica glass containing no lead, since the glass transition point of glass comprised substantially of lead oxide is less than the glass transition point of soda lime silica glass.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeanvoine in view of Basler as applied to claims 1, 3, 6-8, and 11-14 above, and further in view of US Patent 6,846,760 (Siebers hereinafter).

**Regarding claim 5**, Jeanvoine in view of Basler does not disclose that the temperature of the float glass is between 500 and 800 degrees Celsius.

Siebers, however, discloses that the temperature of the float glass should be between 600 and 750 degrees Celsius (column 8, lines 53-54).

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It would have been obvious for one of ordinary skill in the art at the time of the invention to have temperature of the float glass is between 500 and 800 degrees Celsius. The rationale to do so would have been the motivation provided by Siebers that to do so would predictably ensure a high thermal shock resistance (column 8, lines 51-53).

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeanvoine in view of Basler as applied to claims 1, 3, 6-8, and 11-14 above, and further in view of US Patent 5,073,524 (Speit hereinafter).

**Regarding claims 9 and 10**, Jeanvoine in view of Basler does not disclose that the glass had a density ranging from 4.3 to 5.5 g/cm<sup>3</sup>.

However Speit discloses that density of the glass is 5.2 g/cm<sup>3</sup> (Table 4), which falls within the range of 4.3 to 5.5 g/cm<sup>3</sup>.

Since Speit discloses a glass composed of 24-46% by weight lead oxide, it is intrinsic that a glass composed of a same percent by weight lead oxide, such as the glass disclosed by Jeanvoine, would have the same density.

#### ***Response to Arguments***

1. Applicant's arguments filed 22 October 2009 have been fully considered but they are not persuasive.

The Applicant argues that Basler never suggests selecting a neutral atmosphere that is neither oxidizing nor reducing under float plant conditions.

The Examiner respectfully disagrees. Basler teaches a neutral gaseous atmosphere which is comprised principally of nitrogen (column 1, lines 49-52). The Disclosure states that is preferred to use a neutral atmosphere, such as a nitrogen atmosphere (page 3, lines 3-6).

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Furthermore, the Disclosure states that the reason for a neutral atmosphere is to limit oxidation of the tin of the float bath (page 3, lines 8-10). This directly correlates with the motivation for a neutral gaseous atmosphere provided by Basler, specifically that the reason for a neutral atmosphere is to protect the molten metal from oxidation (column 1, line 61).

The Applicant argues that Cramer is non-analogous art because it pertains to making colored flat glass in a slightly oxidizing atmosphere and would not have led one of ordinary skill in the art to a solution of the problems associated with production of lead-rich glass such as the formation of lead films or droplets in a reducing atmosphere or how to prevent the oxidation of a molten metal used in the float process.

The Examiner respectfully disagrees. Cramer discloses a process of making the metal oxide containing, flat glass in which the glass is formed while being supported on a pool or bath of molten metal (column 1, lines 5-9). Specifically, the metal oxide is employed as the principal colorant and are those which have favored monoxide forms (column 2, lines 52-57). Lead oxide is the principal colorant in a flat glass rich in lead oxide and lead oxide has a favored monoxide form, specifically PbO.

Furthermore, while Cramer may refer to the atmosphere as "slightly oxidizing" in the abstract, the components of the atmosphere which are outlined in the instant application's Disclosure and the motivation for maintaining an atmosphere of those particular components, are clearly outlined by Cramer.

Specifically, Cramer notes the problem of oxidation of the molten metal used in the float process (column 2, lines 22-25).



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To solve this problem, Cramer proposes a solution which consists of creating an atmosphere, which falls within the Applicant's definition of a neutral atmosphere, comprising less than 5 ppmv oxygen (column 7, lines 56-61), consists essentially of nitrogen (column 8, lines 47-49), and does not contain hydrogen (column 4, lines 36-40).

Thus, it would have been obvious for one of ordinary skill in the art at the time of the invention to have used Cramer's proposed solution for the problem of oxidation of the molten metal used in the float process, in the production of lead-rich glass. The rationale to do so would have been the motivation to prevent the oxidation of the molten metal used in the float process.

### ***Conclusion***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to YANA BELYAEV whose telephone number is (571)270-7662.

The examiner can normally be reached on M-Th 8:30am - 6pm; F 8:30 am- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. B./

Examiner, Art Unit 1791

/Eric Hug/

Primary Examiner, Art Unit 1791